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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Arlin R. Jones

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HEWLETT-PACKARD COMPANY

Intellectual Property Administration

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EXAMINER

LEE, CHEUKFAN

ART UNIT

PAPER NUMBER

2625

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/680,861	JONES, ARLIN R.	
	Examiner	Art Unit	
	Cheukfan Lee	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 1-12 are pending. Claim 1 is independent.
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tom et al. (U.S. Patent No. 6,369,918) (filed Feb. 8, 1999).

Regarding claim 1, Tom et al. discloses a method for using a scanner to reduce artifacts. In a scanning operation, either the image sensor is moved within the scanner in the subscanning direction, or the image (i.e., the document) is moved (col. 4, lines 61-62, col. 6, lines 20-25), and these choices are not critical to the invention as Tom et al. discloses (col. 6, lines 24-26).

In an exemplary embodiment, the image sensor is moved with the scanner vertically across lines of the image (the document) (col. 6, lines 20-21, col. 6, line 20 – col. 6, line 4).

The method of Tom et al. comprises decelerating an image sensor from moving at an inherent first substantially constant speed (col. 6, lines 5-21, col. 5, line 20 – col. 6, line 4), measuring first reflected light from a first section of the document that moves past the image sensor during decelerating the image sensor (see col. 6, lines 35-49, the data valid signal 180 changes to indicate that the scanner is no longer generating valid

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data, but it is inherent that invalid data is still being generated at this time during which the image sensor is decelerating from the first substantially constant speed), causing relative movement between the document and the image sensor (the image sensor is moved a number of steps backward) (col. 5, lines 55-65, col. 6, lines 47-49), and measuring second reflected light from the first section of the document (that is, the first section of the document is scanned again after scanning is resumed, col. 6, lines 43-46, col. 5, line 65 – col. 6, line 4).

Since the invention is Tom et al. is applicable to a scanner in which relative movement between the document and the image sensor is created by moving the document, and to a scanner in which relative movement between the document and the image sensor is created by moving the image sensor, which choices are not critical to the invention (col. 6, lines 20-25, col. 4, lines 61-62), using the disclosure of Tom et al., one of ordinary skill in the art would have known how to configure the scanner and its control such that the document is moved in the subscanning direction during a scanning operation, instead of moving the image sensor, and would have realized the fact that such a scanner requires a smaller horizontal dimension (in the subscanning direction) as compared to a scanner where the image sensor is moved. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a method as claimed, comprising the steps of decelerating the document from moving at the inherent first substantially constant speed, measuring the first reflected light from the first section of the document that moves past the image sensor during

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decelerating the document, causing relative movement between the document and the image sensor, and measuring second reflected light from the first section of the document when the scanning operation is resumed, in order to reduce the horizontal dimension of the scanner.

Regarding claim 2, a first set of data (the set of invalid data) is generated from measuring the first reflected light during decelerating, and a second set of data (the set of valid data) from measuring the second reflected light after scanning is resumed (col. 6, lines 35-49, col. 6, lines 43-46, col. 5, line 65 – col. 6, line 4).

4. Claims 3-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is an examiner's statement of reasons for allowance:

Claim 3 would be allowable because Tom et al. does not disclose that the step of causing relative movement includes moving the optical sensor in the direction the document moves through the scanner during scanning in the obvious method of Tom et al., discussed for claims 1 and 2 above, for a first distance as claimed, i.e., a distance substantially equal to a sum of an acceleration distance of the document and a deceleration distance of the document, and includes moving the first section of the document past the image sensor at the first substantially constant speed in the first

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direction as claimed, although the first section of the document is moved past the image sensor at the first substantially constant speed in the direction the document moves during scanning, in the method of Tom et al. discussed for claims 1 and 2 (see also Tom et al., col. 6, lines 43-46).

Claim 4 depends on claim 3.

Claim 5 would be allowable for a reason similar to that given for claim 3. Claim 5 requires that the causing relative movement includes moving the object in a direction opposite a direction the object moves through the scanning device, for a distance substantially equal to a sum of an acceleration distance of the object and a deceleration distance of the object. This feature in combination with other limitations of claim 5 is not taught by Tom et al.

Claim 6 depends on claim 5.

Claim 7 would be allowable because Tom et al. does not disclose that the causing relative movement includes the following as claimed in claim 7:

a) moving the optical sensor in a first direction, opposite a second direction of the object (document) moves through the scanner during scanning, for a first distance substantially equal to a sum of an acceleration distance of the image sensor and an acceleration distance of the object (document);

b) moving the image sensor in the second direction at the second substantially constant speed for a second distance substantially equal to a sum of the acceleration

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distance of the object (document) and the deceleration distance of the object (document); and

c) moving the image sensor in the first direction for a third distance substantially equal to a sum of a deceleration distance of the image sensor and a deceleration distance of the object (document).

Claims 8 and 9 depend on claim 7.

Claims 10-12 would be allowable for a reason similar to that given for claim 7. Tom et al. does not disclose that the causing relative movement includes a) moving the optical sensor (image sensor) in a first direction ..., b) moving the optical sensor (image sensor) in a second direction opposite the first direction ..., and c) moving the optical sensor (image sensor) in the first direction ..., as claimed in claim 10. Claims 11 and 12 depend on claim 10.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Huang (U.S. Patent No. 6,615,115), "Method of reducing scanning discontinuity"

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Walker (U.S. Patent No. 5,369,504), "Method and apparatus for reducing image distortion in an asynchronous input scanner"

Ogura (U.S. Patent No. 4,908,664) (applied in a previous Office Action for the parent application 09/395,262, dated October 4, 2002), one of the closest prior art references of record, discloses a method for using a scanner where an optical unit (53) is repositioned along the subscanning direction by a distance covered during a time period including the deceleration time period of the optical unit (53) in order to start or restart scanning from a point on a document proper to produce high quality image data. Ogura decelerates the optical unit (53) from moving at a first substantially constant speed.

Minagawa et al. (U.S. Patent No. 5,915,158) (applied in a previous Office Action for the parent application 09/395,262, dated March 12, 2003), another one of the closest prior art of record, discloses a method of using an image scanning device having a switchback mode in which a document (document Dn+1) is continuously forwarded (col. 10, lines 49-52 and lines 61-65), in a case when said document passes past the reference scanning point (PX) onto the scanning station (RX), the document is stopped on the scanning station, which process inherently includes decelerating the document and bringing the document to a complete stop, and then the document is transported backwardly on the scanning station so that the trailing edge of the document is positioned at the reference scanning point (PX). However, Minagawa et al. does not

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disclose "measuring first reflected light from a first section of the object that moves past an optical sensor during decelerating the object".

One (U.S. Patent No. 5,444,555)

Matteson (U.S. Patent No. 4,367,493)

Harada et al. (U.S. Patent No. 5,499,804)

Furuoya (U.S. Patent No. 5,805,294)

Miyajima (U.S. Patent No. 6,388,777)

Nagano (U.S. Patent No. 6,160,636)

Bell (U.S. Patent No. 4,748,514)

Kumashiro (U.S. Patent No. 5,864,408)

Takei et al. (U.S. Patent No. 5,473,445)

Tsai (U.S. Patent No. 5,719,404)


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (571) 272-7407. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheukfan Lee
June 22, 2006


Cheukfan Lee